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April 20, 1998

MARVIN ROSENBERG
202-457-7147

VIA HAND DELIVERY

Magalie Roman Salas, Esquire
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: In the Matter of
NORTHPOINT TECHNOLOGY
Petition for Rule Making to Modify
101.147(p) of the Commission's Rules To
Authorize Subsidiary Terrestrial Use of the
12.2-12.7 GHz Band By Digital Broadcast
Satellite Licensees and Their Affiliates
(RM No. 9245)

Dear Ms. Salas:

Transmitted herewith, on behalf of United States Satellite Broadcasting Company, Inc. ("USSB"), are an original and four copies of its Comments to the above-referenced Petition for Rule Making.

Should there be any questions, please communicate with the undersigned.

Very truly yours,

Marvin Rosenberg
Counsel for United States Satellite
Broadcasting Company, Inc.

mr;ewd
Enclosures

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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	)	
NORTHPOINT TECHNOLOGY	)	RM No. 9245
Petition for Rule Making to Modify	)	
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Satellite Licensees and Their Affiliates	)	

COMMENTS OF
UNITED STATES SATELLITE BROADCASTING COMPANY, INC.

UNITED STATES SATELLITE
BROADCASTING COMPANY, INC.

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Its Counsel

* Admitted Only in Maryland; Supervision by
Marvin Rosenberg, a Member of the D.C. Bar

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COMMENTS OF
UNITED STATES SATELLITE BROADCASTING COMPANY, INC.

INTRODUCTION

On March 19, 1998, the Federal Communications Commission ("FCC" or "Commission") released a Public Notice seeking comments on Northpoint Technology's ("Northpoint") *Petition for Rulemaking* ("*Petition*") that was filed on March 6, 1998. United States Satellite Broadcasting Company, Inc. ("USSB"), by its counsel, hereby submits its comments in response to the Notice.

USSB is a Direct Broadcast Satellite ("DBS") licensee/permittee providing multichannel video programming by satellite directly to subscribers' homes. Accordingly, USSB has a direct interest in these proceedings.

In the *Petition*, Northpoint requests the Commission to initiate a rule making to modify Section 101.147(p)[1] of its rules to allow secondary, subsidiary communications

[1] 47 C.F.R. § 101.147(p).

authorizations, subject to specific non-interference conditions, for terrestrial use of the 12.2-12.7 GHz frequency band by Direct Broadcast Satellite ("DBS") licensees, third party systems integrators affiliated with DBS systems, and local broadcasters.[2] Northpoint envisions that its technology will be deployed cooperatively by these entities to deliver local television signals and high-speed wireless Internet access in the 12.2-12.7 GHz band to DBS subscribers.[3]

On July 8, 1997, Northpoint Technology, operating under the name Diversified Communication Engineering, Inc. ("DCE"), was granted an experimental license, call sign WA2XMY. The experimental license was obtained to investigate whether broadcast signals could be transmitted and received terrestrially on the same frequencies as direct broadcast satellite signals without causing harmful interference into any DBS receivers. In October 1997, DCE conducted a controlled, low-power test at the King Ranch near Kingsville, Texas. The King Ranch is a remote and very rural area with almost flat terrain.

Before the Commission conducts a rule making that could result in a significant change in its rules, Northpoint must first prove the feasibility of its technology by demonstrating that no interference will be caused to existing DBS service providers operating in the 12.2-12.7 GHz band.[4] As explained below, the results from Northpoint's

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[2] Under current rules, the 12.2-12.7 GHz frequency band is allocated to broadcasting-satellite service on a primary basis.

[3] For example, Northpoint has not explained why it cannot use the 14.0-14.5 GHz band, which has been established for secondary uses, within the FSS, for feeder links for the fixed-satellite service. The use of this band would eliminate interference questions since it is not expected that the terrestrial signals would interfere with FSS space stations.

[4] In the early 1980's CBS conducted a series of experimental transmissions in the 12.2-12.7 GHz band at Mt. Sutro, San Francisco, California and determined that the band's terrestrial propagation characteristics were unacceptable. While those tests were analog and while digital transmission could be expected to improve the

single experimental trial fails to reassure DBS operators. Perhaps most disturbing, however, is Northpoint's apparent belief that its single experimental trial demonstrates that its technology can operate without causing any harmful interference to existing services. Without additional information, USSB, as well as the Commission, must reserve judgment on the feasibility of Northpoint's technology. The Commission therefore must either deny Northpoint's petition outright, or alternatively, hold it in abeyance until Northpoint has provided an adequate showing, and other parties have had sufficient opportunity to examine it and comment on its demonstration.

I. The Commission Should Require Northpoint to Fully Justify Its Assertions of Non-Interference.

Although Northpoint urges the Commission to promptly initiate a rulemaking, Northpoint has not enabled the Commission to make an informed decision in its favor. Nor has Northpoint provided any reason for urgent Commission action. Contrary to Northpoint's assertions, results from the single experimental trial conducted under a FCC experimental license in October 1997 do not provide adequate assurance that the Northpoint technology can be deployed effectively without causing interference to existing services. In fact, Northpoint's single experimental trial showed that its terrestrial use of the 12.2-12.7 GHz band did, in fact, cause interference to existing DBS systems located within the so-called exclusion zone. Further, because of the existing conditions at the test site, it was not possible to account for multipath effects which could result from buildings, foliage, and structures. Therefore, results from the single experimental trial do not provide conclusive

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improve the situation, terrestrial operation at this frequency still would not be practicable because Northpoint would have strict power limitations to protect DBS users -- limitations that CBS did not have.

results from which a reasonable conclusion may be drawn that Northpoint's technology can be deployed without causing interference to existing DBS services.

Although USSB is interested in the prospective benefits that may flow from Northpoint's technology, this curiosity must be tempered by reality. To date, the technology, as a viable operational system, remains unproven. Only one experimental trial has been conducted and this trial was conducted under near ideal conditions. Tests under various atmospheric and obstacle conditions also must be conducted. Most importantly, however, even under the ideal conditions, the experimental trial results showed harmful interference to DBS service.

One area where this technology shows considerable promise, if it is proven viable, is in areas where direct broadcast satellite service has high consumer appeal, but also consumer resistance because of the unavailability of local broadcast signals on direct broadcast satellite. These areas exist where local television reception is obstructed by line-of-sight difficulties, such as in urban areas and in areas with uneven terrain. It is under these conditions that consumers are expected to be willing to pay for local television which otherwise is available at no cost. Northpoint's proposed technology could respond to these consumer's demands. Thus, more tests are needed to determine whether this technology could operate interference free in these areas.

The modification that Northpoint seeks is a major change in the Commission's rules. Those rules serve an important purpose. They minimize interference among users of the 12.2-12.7GHz spectrum. The DBS spectrum allocation serves licensees and permittees who have invested countless dollars in their systems and directly benefits millions of individuals

each day. An applicant that seeks to provide an inconsistent technology must bear the heavy burden of showing that the change it seeks will not undermine the purpose of the FCC's rules. The applicant must prove, not merely state, that its technology will not cause interference, either to existing users or to users who could have initiated or expanded operations had the rules remained unchanged.

II. The Results from Northpoint's Experimental Trial Shows a Clear Threat of Interference to DBS Systems.

It is important to note the very important conditions which were not capable of being evaluated at the test site. First, due to the remote and rural nature of the test site, it was not possible to test for multipath interference that could result from building and other structural reflections that exist in more urban environments. Experimental trials to determine the impact of building, foliage and other structural reflections into the DBS antennae's main beam must be conducted by Northpoint prior to the FCC ruling on its petition for rulemaking.

Second, Northpoint claims its technology can co-exist with DBS systems independent of atmospheric conditions. However, Northpoint does not present information to substantiate this claim. The engineering report suggests that, although there may have been rain present on the days tests were conducted, the actual testing was conducted during clear sky or near clear sky conditions. At the very least, there is no evidence that testing was conducted during periods of significant rain attenuation. In its petition, Northpoint states that it can adjust its transmitter output power in real time to ensure that a constant carrier-to-noise plus interference (C/N+I) ratio can be maintained. Northpoint does not take into account that different paths in different fade mechanisms exist on satellite paths compared

to terrestrial paths. For example, a satellite path may suffer degredation due to a high altitude thunderstorm without rain falling on the receive location. Northpoint acknowledges that this might require constructing a network of monitoring stations that would allow it to monitor the received signal level of DBS transmissions on earth during periods when rain fade will occur. Before Northpoint can definitively state that its technology can co-exist with DBS systems independent of atmospheric conditions, it must prove that it is capable of locally monitoring atmospheric conditions and providing automatic power adjustment to control for rain attenuation.

Finally, throughout its petition, Northpoint repeatedly claims that its technology will operate without any harmful interference to existing services. However, this statement contradicts what Northpoint has acknowledged in both its petition and engineering statement—that interference does in fact occur in an area that is near the transmitter, the so-called exclusion zone. The size of this exclusion zone is uncertain; and when utilizing a cellular-type operation, which requires numerous transmitters, the exclusion zones could be a significant factor. Therefore, to the extent that any DBS subscribers are located within the exclusion zone, interference, to those subscribers, will result. Although there may be large unpopulated areas where transmitters can be located, and, therefore, theoretically no interference would result, at this time it would be imprudent and unreasonable to accept this type of transmitter site location as typical. Further, in its petition, Northpoint states that the exclusion zone is relatively insensitive to variations in antenna height, and therefore, postulates "use of higher elevation antennas could decrease the effective exclusion zone, because much of the exclusion zone associated with the transmitter *may* be in the air above

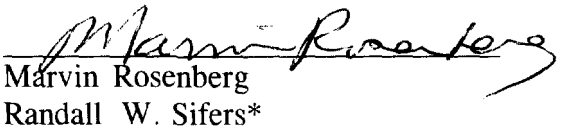
roof level". *Petition*, page 16 (*emphasis added*). However, before USSB or the Commission accepts this theory, Northpoint must show, through actual results, that much of the exclusion zone is above roof level and consequently, use of higher elevation antennas can be used to decrease the effective exclusion zone.

CONCLUSION

It is imperative for the Commission to gain additional information from Northpoint before it considers conducting a rule making that would significantly change the rules. If Northpoint's technology fails to operate as predicted, vital activity in the 12.2-12.7GHz band will become subject to interference and disruption. Northpoint bears the burden of proving that will not happen. The information available from the single experimental trial raises significant doubts about the technology's compatibility with DBS systems. The Commission should refuse to proceed further until Northpoint has conducted additional testing and provided more information as discussed above.

Respectfully submitted,

UNITED STATES SATELLITE BROADCASTING COMPANY, INC.



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April 20, 1998

WAS1-343184

CERTIFICATE OF SERVICE

I, Ellen Dorsey, an employee of Holland & Knight LLP, hereby certify that on April 20, 1998, a copy of the foregoing Comments to Petition for Rule Making was served by first-class U.S. mail, postage prepaid, to the following:

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WAS1-343184.1